

# STUDIO LIGHT

A MAGAZINE OF INFORMATION  
FOR THE PROFESSION



PUBLISHED BY THE  
EASTMAN KODAK COMPANY  
ROCHESTER NEW YORK

JULY 1917

# SEED



# PLATES

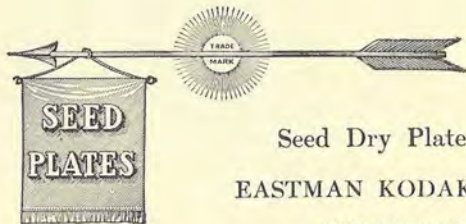
Latitude is a quality not always fully appreciated, but it is responsible for a higher percentage of good results than any other one quality of a plate.

If the scale of tones the plate will reproduce is no greater than the scale of tones in the average subject, then exposure must be absolutely correct or the subject will not be correctly reproduced in the negative.

If, however, the plate will render a scale of tones twice as great as that in the subject, fifty per cent. over or under-exposure will not alter the gradation or quality of the negative.

Seed 30 Plates have exceptional speed, fineness of grain and *the greatest latitude* of any portrait plate made.

*It's a Seed Plate you need.*



*All Dealers'.*

Seed Dry Plate Division,  
EASTMAN KODAK COMPANY,  
ROCHESTER, N. Y.

*Sales that make sales:*



## Eastman Portrait Albums

To make photographs popular there must be a reason for wanting them and a place to keep them. The Portrait Album supplies both.

The lack of a place to keep photographs has made them less popular in the home—supply the means of keeping a family record and the demand for photographs will increase.

There may be prejudice against the old family album—but not against the idea. The new Portrait Album is sufficiently dignified to overcome prejudice, sufficiently adaptable to conform with present day requirements.

The Eastman Portrait Albums take 87 per cent. of the sizes of portraits now made by photographers. The albums are bound in black, long grained leather. Leaves are furnished for 2, 4, 6 and 8 prints, and the album may be enlarged by means of extra leaves, to twice its normal capacity.

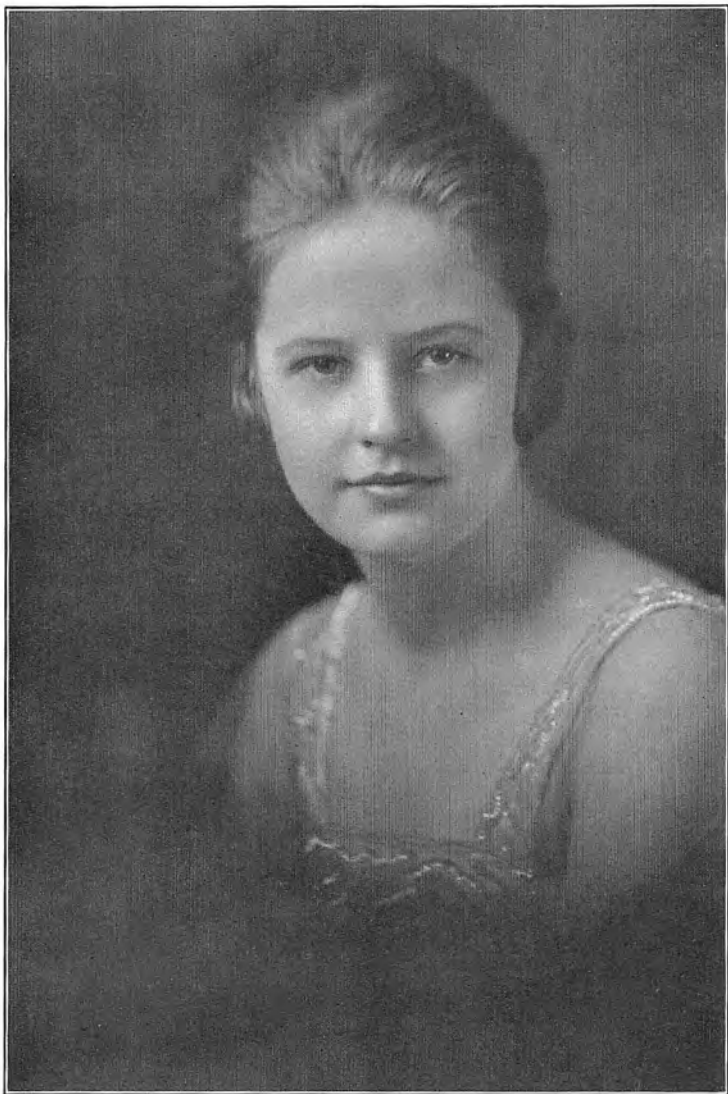
Eastman Portrait Album, either vertical or horizontal, including 12 assorted leaves, . . . \$10.00  
Extra leaves for any sized openings, each, . . . .40

*Above prices are f. o. b. Rochester. For prices in Canada, enquire from your stock house.*

**EASTMAN KODAK COMPANY,**

*All Dealers'.*

**ROCHESTER, N. Y.**



ARTURA IRIS PRINT, FROM EASTMAN PORTRAIT FILM NEGATIVE

*By Barnum Studio  
Cincinnati, O.*



# STUDIO LIGHT

— INCORPORATING —

THE ARISTO EAGLE .. THE ARTURA BULLETIN

ESTABLISHED 1901

ESTABLISHED 1906

VOL. 9

JULY 1917

No. 5

## THE WAR AND BUSINESS

As a people we have a reputation for being free and easy with our money—we are not naturally economical though there is gradually spreading across the country a wave of economy. We are beginning to realize that we are actually taking an active part in a great world war and that the purpose of that war is to make the world safe for our own and other democracies.

We are the richest nation in the world, but accustomed as we are to large figures the enormous sums already spent in waging the war stagger us. We have had our first opportunity to help finance this war in the Liberty Loan, and we have responded patriotically.

It is estimated that over two and a half million people have contributed to our first war loan. The psychological effect of such

a wide participation in the first effort of our government to finance her allies will awaken many of us to our responsibilities as citizens. It may also temporarily tighten the purse strings of some of the more timid.

Practically all of the vast amount of money represented by this and future loans will be spent here at home for supplies which will be shipped abroad. The money will be put back into circulation—will be used to buy raw material which our workers will turn into finished products—will be put back into seed which the soil will again multiply, so that each succeeding loan will make us all the richer. Business is bound to be good.

Photographs have been classed as luxuries, but in a sense they are not. They are very important in keeping a record of all sorts of events, and especially in keeping a record of the family for posterity. Photography is playing an important part in the



present war and its history will be most graphically written in pictures. But there will also be a very complete picture record of the individuals who are to make our history if the photographers of the country will give wide publicity to the importance of photographing our soldiers.

Photography may to a certain extent be a luxury in time of peace, but when we are sending an army to the front and are preparing other armies to back them up and take their place if need be—then it becomes the duty of every soldier to have a photograph made for the folks who must stay at home.

The photographers of Canada, of England and of France have had all and more than they could do to fill the demand for photographs of their soldiers. Business, and the photographic business in particular, will be better than usual with us though we may find some slight difficulty in securing the volume of help to which we have been accustomed.

Each individual may be required to increase his producing capacity, but this will be a lesson in efficiency that we all need. And it is not so much going without things as it is the eliminating of waste that will be necessary.

And finally, we are to be taught a great business lesson in helping our government to finance the war. The great army of

bond holders, many of whom are buying on the savings plan, will learn the value of systematic savings. The small business man will also learn the value of good business methods. When a fifty or one hundred dollar purchase is subject to two per cent. cash discount and that purchase is made every month, the photographer will more readily see how fifty or one hundred dollars turned over twelve times a year will yield a profit of twenty-four per cent., which is a greater return than can be expected on any other good investment.

The photographer will certainly be a lucky man if he is fully alive to his many opportunities. There will be photographs of the soldiers for the home folks and photographs of the home folks for the soldiers, and in many cases a cheerful word from the photographer will lighten a heavy heart. Be optimistic in all your dealing and most of all in your advertising. A person in search of sympathy doesn't go to a pessimist, and you can most effectively drive customers away from you by dwelling on the morbid arguments for having photographs made in time of war.

Business is good and business will be better.



*Make the print on*  
**ARTURA**



ARTURA IRIS PRINT, FROM EASTMAN PORTRAIT FILM NEGATIVE

*By Barnum Studio  
Cincinnati, O.*



# THE PHOTOGRAPHIC RENDERING OF TONE VALUES—III

BY DR. C. E. K. MEES

## THE EFFECT OF DEVELOPMENT UPON THE SCALE OF THE NEGATIVE

In the last article of this series, published in the June issue of *STUDIO LIGHT*, we saw that we can represent the way in which the scale of tones which occur in a natural object are translated into the densities of the negative by a curve which is shown in Fig. 1. Throughout the greater

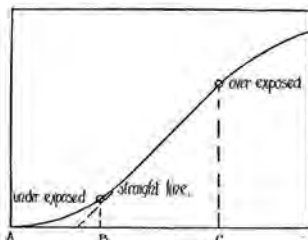


Fig. 1

part of this curve equal increases in exposure are represented by an equal rise in the densities and this portion of the curve corresponds to a technically perfect negative; that is, one in which the opacities of the negative are proportional to the light reflected by those portions of the original subject which they represent. But this proportion between the densities and the exposures does not hold throughout the whole of the curve in what is known

as the period of under-exposure, and again at the end of the curve in the period of over-exposure. The straight line portion of the curve shows the capacity and the limit of a given material to render a scale of tone values correctly.

It is common knowledge that both the contrast and the density of a negative increase during development, and we may therefore ask what effect the amount of development will have upon this curve which shows the relation between the density and the exposure.

If we develop two plates for different times, one for three minutes, let us say, and the other for six minutes, we shall find that the two curves will be identical in shape, and in each of them the straight line portion corresponding to the region through which reproduction will be correct will cover the same range of exposures, but that the steepness of the two curves will

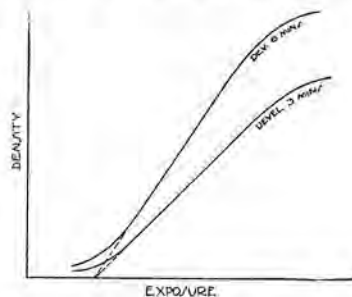


Fig. 2



be different, the curve of the plate developed for six minutes being much steeper than that of the plate developed for three minutes (Fig. 2). This means that as we continue development each density increases to the same proportional extent. We shall not find that our highlights gain density rapidly and then stop or that our shadow detail builds up first and then the highlights gain upon it, as some photographers have thought, but that an increase in development means a proportional increase in every part of the negative scale. If we add 50% to the density of the shadow detail we shall add 50% to the middle tones of the negative and 50% again to the highlights, and since each density increases in the same proportion we get an increase in the contrast shown between the highlights and the shadows. This contrast can be measured from the steepness of the straight line portion of the curves; that is, by the rise in density which corresponds to a given increase of exposure. If, with the units we have chosen, the rise of density is equal to the increase of exposure, then we can say that we have a contrast of unity; if for the same amount of exposure another plate gives twice as much density, we can say that its contrast is two; if it is three times as much, the contrast is three, and so on. (Fig. 3.)

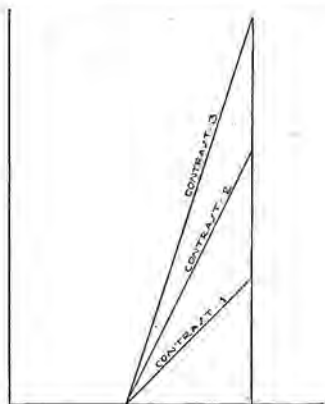


Fig. 3

Therefore, during development the contrast increases. At first it increases rapidly, then the rate of increase begins to fall off and the contrast increases more and more slowly until finally no increase in the time of development will make any difference and the plate has got to the point where it has reached its maximum contrast, the value of which depends upon the plate, but beyond which the contrast cannot be pushed by prolongation of development. In Fig. 4 we see a number of lines showing the contrast obtained with development of one minute, two minutes, four minutes, six minutes, eight minutes, and twelve minutes, and it will be seen that they become closer and closer, and if we develop for a much longer time we reach the limiting value, which is marked in-

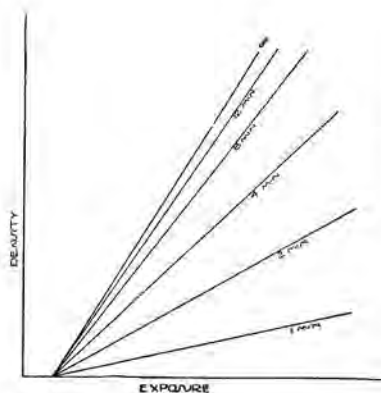


Fig. 4

finity, beyond which no amount of development will push the contrast on that material. If development be further prolonged, we shall only develop fog over the whole plate.

This limit of contrast obtainable depends upon the photographic material. High speed portrait plates have low values of contrast since no portrait requires to be pushed to a contrast exceeding unity. Plates used for landscape work and commercial photography have higher values and will give greater contrast on development. They develop more quickly and easily, give contrasts exceeding the maximum to which the fast materials can be pushed, while the greatest contrast of all is obtained with the special slow emulsions made for process work, where every effort is made to get

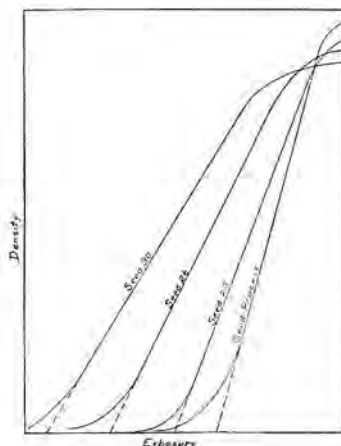


Fig. 5

the greatest possible contrast so as to get clear lines on a completely opaque field. The maximum contrast given by process plates is frequently as high as four, which means that if we have in the original subject two tones one of which is twice as bright as the other, then in the negative, the part representing the higher tones will transmit only one-eighth of the light of that corresponding to the lower tone. Thus, Fig. 5 shows us the curves of Seed 30, Seed 26, Seed 23 and Seed Process plates, each being developed to the maximum contrast available in prolonged development.

Although we cannot obtain a very contrasty negative upon an emulsion designed to give a maximum contrast yet we can obtain soft negatives upon a plate



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*By Barnum Studio  
Cincinnati, O.*



having a high maximum contrast by developing for only a short time. In practice, however, every photographer knows that if he uses a plate designed to give great contrast he will not get satisfactory portrait negatives upon it even if the time of development be short. The reason for this is that hard working plates also have a very short scale in the straight line portion, so that only subjects of very limited scale can be rendered on the straight line portion of the curve. A process plate, for instance, will be able to render a contrast of only 1 to 4 correctly as compared with the great range of 1 to 256 obtainable on the Seed 30 plate, so that if a process plate be used for portraiture, even if soft negatives be obtained by short development, the quality of the negatives will be very unsatisfactory.

We must next consider the relation of the contrast to which we develop the negative to the scale of the original subject. Suppose that we have a range of light intensities in our subject from 1 to 100. Then if we develop the negative to a contrast of unity and if the length of the straight line representing the quality of the material and the exposure are such that we get perfect reproduction of those 100 tones in the negative we shall have a negative in which the ratio of the highest transmission

to the lowest transmission is the same as that of the subject; namely, 1 to 100. If this scale is too great for printing on the papers which are available, we can reduce the scale by lowering the contrast of the negative; that is, by developing the negative for less time, which will slightly reduce each tone in the same proportion. On the other hand, in the case of flat subjects, we can increase the available scale of the subject for the printing paper by increasing the time of development, thus increasing the scale of contrast in making the negative.

Provided that the contrast of the subject is not too great for the scale of the negative material and that the exposure is such that the scale of the subject falls on the straight line portion of the curve, then development to a contrast of unity will make the scale of intensities of our negative the exact inverse of the scale of intensities of the subject.

(To be continued.)



## ALBUM SALES MAKE MORE SITTINGS

*The old portrait album was at the height of its popularity during the Civil War. The new Eastman Portrait Album will be equally popular to-day if you make it so.*



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*By Barnum Studio  
Cincinnati, O.*



## FIXING BATH ECONOMY

It's a lot better to prevent trouble than to wait until you encounter it and then look about for a remedy. Our demonstrators encounter the same troubles every year as soon as the weather gets hot, and these troubles are almost always with fixing baths.

The chemical nature of an acid fixing bath changes as soon as it becomes hot. It becomes a toning bath and not a fixing bath. It isn't always possible to keep a fixing bath cool, but it is easy to make up a fresh one as often as needed. The loss of even a few prints is more expensive than the use of a fresh fixing bath, for hypo is cheaper than paper and the time necessary to make a fresh fixing bath more than offsets the time required to make new prints.

Always have a stock solution of hardener on hand, and a fresh fixing bath then requires only the dissolving of a pound of hypo in sixty-four ounces of water to which eight ounces of hardener is added. The hypo must be thoroughly dissolved before the hardener is added, otherwise sulphur will be released. This will fix two gross of cabinet size paper, or its equivalent, and a smaller or larger quantity can be made up to suit the size of the batch of prints to be fixed.

A fixing bath becomes a toning bath as soon as sulphur has been released, either by chemical ac-

tion or by heating. Any form of acid will release sulphur from hypo and as the hardener contains both alum and acetic acid, it must also contain a sufficient quantity of sulphite of soda to counteract the action of the acids and prevent the release of sulphur.

The hardening solution must be very nicely balanced and it is important that acetic acid should not be stronger than 28%. It is also important that pure sulphite of soda be used, as sulphite that has decomposed becomes *sulphate*, and sulphate of soda does not prevent sulphur being released from hypo. It is readily seen then that if the acetic acid is too strong or there is too much of it, or if the sulphite of soda is partly sulphate or there is too little of it, the balance of the solution is upset and sulphur will be released as soon as the hardener is added to the hypo solution. Be sure of the strength and purity of the chemicals you use for your stock solution of hardener.

When you dissolve a pound of hypo in sixty-four ounces of water, the temperature of the solution is so materially reduced by the dissolving hypo crystals that the hardener may be added and the bath used while cool with the best results. As it is the dissolving of the hypo that drives the heat out of the water, this advantage is entirely lost if the hypo is dissolved and allowed to get warm before it is used. Mix the





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hypo bath at the time you want to use it and throw it away when your prints are fixed.

Worn out fixing baths are probably responsible for as much or more trouble than baths which merely contain sulphur. The sulphurized bath may properly fix a print and also slightly tone it, but a bath which is worn out will not properly fix a print and may also badly bleach and discolor it. The danger lies in the print going bad after it leaves your hands.

A properly made fixing bath removes the unexposed and undeveloped silver from an emulsion by first reducing it to an insoluble silver salt and this in turn is reduced to a soluble salt which is readily removed by washing. The same action takes place in fixing plates as in fixing paper, and they are only properly fixed when they remain in a bath for some time after they become clear.

If a plate fixing bath is weak, and, in the time ordinarily necessary for fixing, only the insoluble silver salt is formed, it can not be removed by washing and as soon as the negative is exposed to light a stain will appear. This stain can not be removed and can not be prevented except by proper fixing in a bath of proper strength. The mere fact that a negative will become clear with long fixing in an old bath doesn't mean that it is fixed. There must be an excess of hypo to render

the silver soluble so that it can be washed out of the gelatine emulsion.

Fixing is the important thing—more important, in fact, than washing. Agitated water will remove half the hypo from a plate in two minutes. In another two minutes half the remainder is removed, and so on until washing is complete. If three-quarters of the hypo is removed in four minutes, fifteen minutes should be time for thorough washing under the proper conditions.

Double the time that it takes to clear a plate should be allowed for fixing, and if the bath is fresh the plate will be better for the long fixing and comparatively short washing, and the gelatine will not likely soften even in hot weather.

Prints should always be washed longer than plates for, while it does not take any longer to remove the hypo from the gelatine, a longer time must be allowed to thoroughly remove the hypo from the paper.

Be sure your fixing baths are fresh and of proper strength, be sure you do not overwork them and be sure that the chemicals that go into your baths are pure. Keep sulphite of soda in an airtight container and do not use acetic acid over 28% strong. You can be sure of your chemicals if you use only those bearing the E. K. Co. Tested Chemical Seal.



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## FOGGY NEGATIVES

The men in closest touch with the photographers and with the greatest number of them are the demonstrators, and in a conversation with one of these demonstrators the other day I was told of what appeared to be an epidemic in his particular territory.

A great number of photographers had complained of their negatives lacking in brilliancy, in fact they were so foggy looking that in most instances where the blame had not been laid on the plates, a search had been made for pin holes in the bellows of the camera or for reflecting surfaces that might scatter light and produce the effect. In every instance, however, the trouble was corrected by cleaning the lens.

It seems strange that so common a cause for trouble should be so easily overlooked, but in several cases the trouble was found even where the cleaning of lenses was a regular habit.

Unusual atmospheric conditions had caused this trouble, demonstrating the fact that a regular habit of cleaning lenses is not sufficient to prevent trouble if the cleaning is not done often enough.

The demonstrator showed me a number of interesting pictures of the "before and after" type that he had made to show the

effect of dirty or smoky lenses. An exposure was made on one end of the plate, the portrait being vignetted at the shoulders. The lens was then cleaned, the plate turned end for end and another exposure made through the clean lens.

The difference between the two results was the difference between a good and a bad negative. It is hard to realize how so much damage can be done to the quality of a negative by a coating of dust over a lens surface, but a demonstration shows it very clearly.

The lens surfaces gather moisture and dust particles until there is a coating over the entire surface that more or less effectually scatters and diffuses the light, giving very much the same effect as fog.

The usual way of cleaning a lens is to brush or wipe the dust from the outer surface assuming that the surface inside the camera is sufficiently protected to remain clean. The fact is that dust readily collects inside the camera box and every time the bellows is drawn out and moved back and forth in focusing this dust is stirred up and must settle down again, the lens getting its full share, especially if there is moisture on its surface.

Look over your lenses carefully and keep them clean. And if the air is moist you will have to look them over more often



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than if it is dry. It isn't much trouble and clean lenses have everything to do with clean results.



## OUR ILLUSTRATIONS

The Barnum Studio of Cincinnati, so far as its owner, Mr. F. E. Spicker, is concerned, is purely an investment. Mr. Spicker is a manufacturer to whom photography is a side line. But he apparently knew something about photographers when he chose the manager for his studio, for in Mr. C. A. Gillam he has a manager and operator who is both a live wire and a good photographer.

Mr. Gillam has been manager of the Barnum Studio for the entire time it has been in the hands of its present owner, moved the studio from upstairs to its present excellent ground floor location and has developed a profitable home portrait business.

Portrait Film has been used exclusively in this studio for the last two years and has had much to do with the development of the home portrait work. Mr. Gillam is a film enthusiast and the excellent work he is producing on film, both in home and studio work, is proof of his ability as a workman as well as proof of the quality of the material he uses.

Artificial light is used in the

studio, seven 1000 Watt Nitrogen lamps in a cabinet similar to that used at one time in the Eastman School demonstrations, furnishing the illumination. The films are developed in open tanks in the Portrait Film Holders, remaining in same until they are washed and dried.

The convenience of films and the quality of the results they produce are so satisfactory that Mr. Gillam says he can not make his recommendation of films too strong to his fellow photographers.

The advertising which brings the best results to this studio is special letters with a follow-up plan. Aside from this the display windows are considered of greatest importance, and new displays are made weekly.

Our illustrations are from Artura prints from Eastman Portrait Film negatives, and we regret that printers' ink is unable to reproduce this combination of quality in a manner which does justice to the original prints.



*Don't forget to sell enlargements from the soldier boys' negatives. If the negative is small, there is all the better chance for an enlargement on Artura Carbon Black for the home folks.*





## EASTMAN COMMERCIAL FILM

First Portrait Film—then Process Film, and now Commercial Film, the link between the two that gives the film worker a film for practically any class of work he may wish to do.

Eastman Portrait Film has been used extensively for commercial work, and it has proved to be very satisfactory for a great part of the commercial photographer's work.

There has been a demand, however, for a film with a slower emulsion and greater contrast than Portrait Film, but not as slow and not as contrasty as Process Film. The Commercial Film emulsion is similar to that of a Seed 23 Plate, so that it will meet the requirements of the commercial worker.

It has exceptional latitude, allowing for considerable error in exposure, also a very fine grain, which is a great advantage in making enlargements. Negatives made on Commercial Film are practically free from halation, an advantage which every film user fully appreciates and which has created the demand for a greater variety of film emulsions.

For the portrait photographer Commercial Film will be most useful in making copies or transparencies from which duplicate negatives are to be made. When exceptional contrast is desired,

as in photographing maps, drawings, blue prints, etc., Process Film will be found best suited to the work.

Eastman Commercial Film is furnished in regular sizes from  $4\frac{1}{4} \times 6\frac{1}{2}$  to  $11 \times 14$  at the same prices as Portrait Film. Your dealer can supply you.



## COPYING PHOTOGRAPHS AND PRINTED MATTER

Occasionally the commercial photographer is called upon to make a copy of a composite picture such as an ordinary photo-

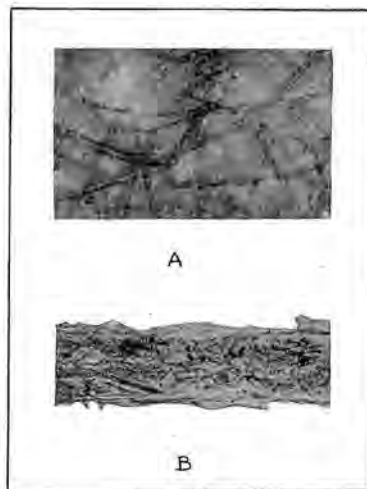


FIG 2

FLAX PAPER

"A" HORIZONTAL SECTION, 88 DIAM.  
"B" VERTICAL SECTION, 175 DIAM.

graph ruled about with straight lines and possibly some printed matter, a subject similar to our illustration.

In this class of work the difficulty is to get a negative that will render the masses of detail and the solid lines and printed matter correctly and equally effective. An exposure that will be just sufficient to get the proper amount of contrast in the lines and printed matter will fail to give softness and detail in the photograph. Any attempt to get increased softness and more detail by increased exposure and development will result in a decrease in contrast in the black and white of the lines and printed matter.

One way to get a fairly approximate reproduction is to make an exposure for the proper rendering of contrast in the line and printed matter, then make a mask and cover all the copy except the full tone parts in which detail and softness are required, and give another exposure. In this way a more or less even negative can be secured.

A recent method worked out and applied practically, at the Research Laboratory at Kodak Park, secures with one exposure and an intensification dodge, the best possible result.

Here is the method: Expose and develop for softness and detail in the full tone portion of the copy, ignoring the lines and

printed matter though including them of course. After fixing, wash thoroughly and remove surplus moisture, place the negative perfectly level, in a printing frame, on a printing machine for better illumination, and go over the line portion very carefully with the bleaching solution of Monckhoven's Intensifier. A camel's hair brush is used and great care must be taken to see that no bleaching solution is allowed to drop or run on to the parts that are required to be kept soft.

Monckhoven's Formula is as follows:

- A. Bromide of Potassium, 10 grains.  
Bichloride of Mercury, 10 grains.  
Water . . . . . 1 ounce.
- B. Pure Cyanide of Potassium . . . . . 10 grains.  
Nitrate of Silver . . 10 grains.  
Water . . . . . 1 ounce.

The silver and cyanide are dissolved in separate lots of water and the silver added to the cyanide until a permanent precipitation is produced. The mixture is allowed to stand for fifteen minutes and after filtering forms Solution B.

After bleaching and washing the parts that require strengthening, the whole plate is flowed over with the blackening solution B, the procedure now being the same as for ordinary intensification. By these means the line and printed matter is intensified and the contrast between the black and white emphasized



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*By* Barnum Studio  
Cincinnati, O.



to give clear whites and deep blacks, while at the same time the photographic part of the copy retains all its softness and detail in highlight and shadow.

The usual plate best suited to the particular results required should be used. In the case of our illustration a Seed 23 Plate was used.

It will be noted that Monckhoven's formula calls for cyanide of potassium, and for the work in question—the production of strong contrasts—no other intensifier is anything like as efficient. Cyanide is not a desirable chemical to have in the dark room, because of its poisonous nature, and it should be handled with care and a due appreciation of its dangerous properties. Any cuts or sores on the hands should, of course, not be allowed to come in contact with either the crystals or the solution. It is used in quantities by the photo-engraver, and old time photographers who worked the wet plate process used it regularly, but those unaccustomed to the use of cyanide should understand that one or two grains of this chemical are fatal. It is advisable to make up a small solution as needed and pour any remaining solution down the sink.



*Watch the work of the man  
who uses ARTURA*

## FALSE ECONOMY

Economy is a fine thing and any means of reducing waste is economy just so long as quality is not sacrificed. Just as it is economy to use fresh fixing baths and not overwork them, so it is economy not to overwork developers for Artura and similar papers.

The best economy of developer is in using as small a tray as possible for the size of prints that are being developed and having this tray deep enough to contain a quantity of solution. We have given an example of this economy before but it will bear repeating. A 9x11 tray will give a surface of 99 square inches of developer exposed to the air, while an 11x14 tray will give a surface of 154 square inches. If the same amount of developer is placed in each tray there will be 50% more oxidation of the developer in the larger tray and it will not develop as many prints as the same amount of solution of greater depth in the small tray.

The use of trays no larger than is necessary to handle prints is a real economy because any unnecessary oxidation is prevented. And to prevent oxidation is to lengthen the life of the developer and produce prints with the brilliancy and transparency which the paper is capable of yielding.



A little thing—  
your photograph—  
means much to those  
who taught you love  
for country.

—  
*Make an appointment  
to-day*  
—



## THE PYRO STUDIO

Line cut No. 241. Price, 30 cents.

**T**HE ONLY CONDITION  
We make but one condition  
in our offer of cuts for the use of  
photographers.

It is obvious that two photographers in the same town would not care to use the same cut, and we are therefore obliged to limit this offer to one photographer in a town. It will be a case of first come first

served. The first order from a city will be promptly filled. Succeeding orders (if any) will necessarily be turned down and the remittance, of course, will be returned. It is also obvious that we cannot, on account of the cost of the drawings, furnish any large variety of cuts at the nominal prices quoted, and therefore can offer no substitute cut. Get your order in *first*. E. K. CO.

# BULLETIN: THE EASTMAN SCHOOL OF PROFESSIONAL PHOTOGRAPHY FOR 1917



Butte, Mont. . . . . July 17, 18, 19

St. Paul, Minn. . . . . July 24, 25, 26

## VACATION



Send for the circular describing in detail the

1917

## Kodak Advertising Competition

in which Cash Prizes aggregating

**\$3,000.00**

are to be given for pictures suitable for use in  
Kodak advertising.

EASTMAN KODAK COMPANY,

ROCHESTER, N. Y.





## Kodak Dry Mounting Press

The dry mounting process provides the most modern, convenient, efficient method of mounting prints. And as the print you deliver is an advertisement for or against you, its condition after it leaves your hands is important if it is to be a good advertisement.

Dry mounting does not cockle the thinnest mount, holds the print perfectly flat and permits you to deliver prints immediately after they are mounted.

A piece of Dry Mounting Tissue is tacked to the back of the print, the print and mount are slipped into the press and the heat and pressure does the mounting. Prints much larger than the plate of the press may be mounted by giving several impressions. The 5 x 7 and 11 x 14 presses are gas heated. The 11 x 14 press is also furnished electrically heated.

### THE PRICE

Kodak Dry Mounting Press, 5 x 7 gas heated . .	\$15.00
Kodak Dry Mounting Press, 11 x 14 gas heated . .	50.00
Kodak Dry Mounting Press, 11 x 14 electrically heated	57.50

**EASTMAN KODAK COMPANY**

*All Dealers'.*

ROCHESTER, N. Y.

The chemicals of greatest importance in the balance and control of a developing solution are the sodas.

Carbonate, the accelerator, controls the speed of development while sulphite, the preservative, retards oxidation and controls the color of the negative.

The developer formulas we recommend for the photographer are the same we use in testing our sensitive material. The accuracy of our tests depends upon the quality and uniformity of the chemicals used in preparing our developers.

That the photographer might secure the best results our sensitive materials would produce—results equal to those secured in our laboratory tests—E. K. Co. Tested Sodas were placed on the market. Sodas of certain strength and purity were of first importance.

Other tested chemicals followed until the line became practically complete. You can buy chemicals with the assurance that they are right for your use if they bear the Tested Chemical Seal.



EASTMAN KODAK COMPANY,

ROCHESTER, N. Y.

*All Dealers'.*

## Wratten Filters

Wratten K Filters used with orthochromatic plates enable the photographer to secure the greatest color correction the plates are capable of rendering.

Wratten K and Contrast Filters used with panchromatic plates enable one to secure partial correction, complete correction or over-correction of color values so that colored objects may be photographed lighter, darker or exactly as they appear to the eye.

## Orthochromatic Filters

K1—Light yellow for use when short exposures are necessary.

K2—Slightly darker, for the greatest correction on orthochromatic plates.

K3—For absolutely correct rendering on panchromatic plates, but not recommended for other plates.

## Contrast Filters for Panchromatic Plates

G—Strong yellow for rendering yellow objects lighter than they appear—especially suitable for showing grain of oak and yellow woods.

A—Orange-red for mahogany, rosewood, etc.

B—Green for typewriting, rugs, etc.

C—Blue, used only in three-color work.

F—Deep red for dark mahogany, etc.

### WRATTEN FILTER PRICES

	Gelatine Film	Circles or Squares in B Glass		Gelatine Film	Circles or Squares in B Glass
$\frac{3}{4}$ inch, . . . . .	\$.20	\$.75	$2\frac{1}{8}$ inch, . . . . .	\$.45	\$1.50
1 inch, . . . . .	.20	.85	$2\frac{1}{2}$ inch, . . . . .	.65	1.90
$1\frac{1}{4}$ inch, . . . . .	.20	.95	3 inch, . . . . .	.75	2.50
$1\frac{1}{2}$ inch, . . . . .	.25	1.10	$3\frac{1}{4}$ inch, . . . . .	1.10	3.15
$1\frac{5}{8}$ inch, . . . . .	.30	1.15	$3\frac{1}{2}$ inch, . . . . .	1.25	3.75
$1\frac{3}{4}$ inch, . . . . .	.30	1.25	4 inch, . . . . .	1.60	4.50
2 inch, . . . . .	.35	1.40	5 inch, . . . . .	2.50	6.25

EASTMAN KODAK COMPANY,

ROCHESTER, N. Y.

*All Dealers'.*

*The New Developer:*

# KODELON

(Paramidophenol-Hydrochloride)

An economical and highly successful developing agent, used in connection with Hydrochinon, for all developing-out papers.

It bears the Eastman Tested Chemical Seal.

## THE PRICE

1 oz. bottle	. . . . .	\$ .65
$\frac{1}{4}$ lb. "	. . . . .	2.35
$\frac{1}{2}$ lb. "	. . . . .	4.55
1 lb. "	. . . . .	8.80
5 lb. cans	. . . . .	43.50

EASTMAN KODAK COMPANY,

ROCHESTER, N. Y.

*All Dealers'.*



*You can buy uniform materials, but you must give them a fair chance if you expect uniform results.*

Temperature is important.

## THE EASTMAN THERMOMETER

Accurate—convenient—indispensable in tank development where time and temperature are the governing factors. Made with curved back, easily read degree marks and with hook to suspend it in tank.

Eastman Thermometer . . . . \$ .65

## THE EASTMAN TIMER

makes it simple to time exposures with accuracy and uniformity, and these are necessary for uniformity of print results. The hand splits seconds—the large dial is plainly marked and easily read—the timer runs thirty hours.

The Eastman Timer, \$2.50



EASTMAN KODAK COMPANY,

*All Dealers'.*

ROCHESTER, N. Y.

# WANTED

## DISCARDED NEGATIVES

We purchase discarded negatives of standard sizes from  $4\frac{1}{4} \times 6\frac{1}{2}$  to  $14 \times 17$ , providing same are in good condition and are carefully packed in accordance with our instructions.

We will pay all the freight on shipments of 100 lbs. or more, except from localities where the freight rate exceeds \$1.00 per 100 lbs., in which case the shipper will be required to pay the excess.

Before making any shipment please secure these instructions, prices and further particulars, which will be furnished on application.

**EASTMAN KODAK COMPANY,**

**ROCHESTER, N. Y.**

Department S.



## HOME PORTRAIT GRAFLEX



*Looking into  
the Focusing  
Hood you  
can watch*

the changing composition, lighting effect, and expression of the subject you are about to photograph.

Moving about with the camera in the hands, *exact focus* is maintained upon a brilliant, full *negative size image* on the focusing screen, by a slight adjustment of the focusing button.

Correction of false perspective, and an effective degree of diffusion in draperies, can be obtained by quick adjustment of the special swinging lens board, then—a pressure of the Focal Plane Shutter Release and the pleasing pictorial effect on the focusing screen is secured *instantly*.

FOLMER & SCHWING DEPARTMENT  
EASTMAN KODAK CO.      ROCHESTER, N. Y.

OUR NEW VIEW AND GROUP MOUNTER

IN NEW COLORS OF STOCKS

A NEW DESIGN

# THE SYLVAN



**NOTE EXTRA THICKNESS OF STOCK** ■

Edges beveled—Colors, Light Grey, Iron Grey and Seal Brown. The design is brought up in colored enamel—stock finished in a carved wood veneer effect.

**ATTRACTIVE BUT NOT GAUDY**

Prices—For prints, size 5 x 7, \$3.75; 6½ x 8½, \$5.75; 8 x 10, \$7.00 per 100. Sample of the 5 x 7 size free, postpaid.

Ask for Sample Offer No. 821

**TAPRELL, LOOMIS & COMPANY**

(EASTMAN KODAK COMPANY)

CHICAGO, ILLINOIS

*The Leading Card Novelty House of America*

*Improve the quality of  
your negatives—use*

## EASTMAN PORTRAIT FILM

There's more to film than its convenience—more than ordinary quality. Ask the man who uses film and he will tell you it has exceptional speed—that its long scale of gradation gives him great latitude in judging exposures. With slight errors of judgment he is still able to produce negatives with full quality. And if his subject has a great range of contrast he is able to produce the full range without sacrificing highlights or shadows.

But he will also tell you that the non-halation properties of film are alone of sufficient advantage to the portrait photographer to win and hold him won to the use of films, once he comes to appreciate these qualities—that the film negatives will record the shimmering brilliancy of white draperies, retaining detail that is ordinarily degraded or completely destroyed by halation.

The film user will tell you about the many conveniences of film, all of which he appreciates, but he will insist that their greatest advantage is in the superior quality of the results they produce.

EASTMAN KODAK COMPANY,

ROCHESTER, N. Y.

*All Dealers'.*

The whole story of  
quality:

# ARTURA

Has the longest scale of  
gradation of any devel-  
oping-out paper made.



ARTURA DIVISION,

EASTMAN KODAK CO.,

ROCHESTER, N. Y.

*All Dealers'.*